

José Orlando Maldonado-Ortiz, DDS, PhD

Assistant Research Investigator · Dental and Oral Health

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EDUCATION

07/2019 – 10/2022 Bethesda, MD	National Institute of Dental and Craniofacial Research Certificate in Dental Clinical Research
08/2014 – 05/2018 Minneapolis, MN	University of Minnesota School of Dentistry Doctor of Dental Surgery
09/2009 – 08/2018 Minneapolis, MN	University of Minnesota School of Dentistry Doctor of Philosophy in Oral Biology
08/2005 – 06/2006 Fairbanks, AK	University of Alaska Fairbanks UPR-UAF Student Exchange Program
08/2004 – 06/2009 Cayey, PR	University of Puerto Rico Cayey Bachelor of Science with honors, Summa cum Laude, Natural Sciences

PROFESSIONAL CREDENTIALS

05/2018 – present	Dental License: #D13988, Minnesota Board of Dentistry
05/2018 – present	National Provider Identifier: #1689164782, National Plan and Provider Enumeration System

PROFESSIONAL EXPERIENCE

11/2022 – present Minneapolis, MN	University of Minnesota, School of Dentistry: Adjunct Assistant Professor in the department of Diagnostic and Biological Sciences.
10/2022 – present Saint Paul, MN	HealthPartners Dental Group: General Dentist, part-time. I provide comprehensive dental care (e.g., diagnostics, preventative, restorative, surgical, fixed and removable prostheses, and implant crown restorations including CAD/CAM restorations) to individuals and families of the Twin Cities area alongside dentists, dental hygienists, dental assistants, and dental therapists.
10/2022 – present Bloomington, MN	HealthPartners Institute: Assistant Research Investigator. My main research objective is to understand the pathophysiology of salivary gland dysfunction in the context of viral infections and autoimmune diseases for the development of new and better therapies for xerostomia.
07/2019 – 10/2022	National Institute of Dental and Craniofacial Research: Lead dentist in a phase

- Bethesda, MD
1 clinical trial and assistant investigator in four additional clinical studies. During the Dental Clinical Research Fellowship program, I worked alongside researchers, research nurses, physician assistants, dentists, physicians, as well as other healthcare providers of the National Institutes of Health Clinical Research Center.
- 05/2018 – 05/2019
Columbia Heights, MN
Columbia Heights Dentistry: General Dentist, full-time. Provided comprehensive dental care (e.g., diagnostics, preventative, restorative, surgical, fixed and removable prostheses, and implant crown restorations including CAD/CAM restorations) to individuals and families of the Twin Cities area alongside a dental hygienist, and dental assistants.
- 08/2014 – 05/2018
Minneapolis, MN
University of Minnesota School of Dentistry Dental Clinics: Provided comprehensive care (e.g., diagnostics, preventative, restorative, surgical, fixed and removable prostheses, and implant crown restorations), as a student dentist in collaboration with an oral healthcare team, to hundreds of underserved patients (i.e., 2 patients per day), including children.
- 04/2018 – 04/2018
Hibbing, MN
Hibbing Community College Dental Clinic (HCC): Provided dental treatment to hundreds of low-income individuals with limited access to dental services in rural Minnesota alongside a dental hygienist and dental assistants.
- 03/2018 – 03/2018
Antigua, Guatemala
Common Hope Dental Clinic: Provided dental treatment to dozens of low-income individuals with limited access to dental services in rural areas of Antigua, Guatemala.
- 06/2017 – 06/2017
Minneapolis, MN
UCare Mobile Dental Clinic: Treated (e.g., preventative and limited restorative) dozens of children and patients with limited access to dental services in rural areas in Minnesota.
- 07/2017 – 08/2017
Minneapolis, MN
Native American Community Clinic (NACC): Offered high quality, low cost, dental treatment alongside a dental assistant, to underserved communities in the Twin Cities metropolitan area (i.e., 5-7 patients per day).

RESEARCH TRAINING

- 07/2019 – 10/2022
Bethesda, MD
National Institute of Dental and Craniofacial Research Dental Clinical Research Fellow
Mentor: John Chiorini, PhD
Primary goal of research is to characterize the pathophysiology of salivary glands in response to viral infections and development of autoimmunity.
- 2009 – 2018
Minneapolis, MN
University of Minnesota School of Dentistry
Research Fellow
Mentor: Louis M. Mansky, PhD
Primary goal of research was to characterize the assembly, release, and morphology of HTLV-1 virus particles to better understand the structural changes that occur during the late stages of virus replication. The secondary goal of research was to explore the relationship between the HIV-1 mutation rate and viral fitness with the objective of determining how the HIV-1 mutation rate reduces viral fitness.

- Summer 2007; 2008
Minneapolis, MN
- University of Minnesota
Life Sciences Summer Undergraduate Research Program
Mentor: Mark Herzberg, DDS, PhD
Summer projects included: “Characterization of PAAP-motif containing proteins in *Streptococcus sanguinis*” and “Interaction of *Streptococcus gordonii* adhesin Hsa with human platelets”
- 2006 – 2009
San Juan, PR
- University of Puerto Rico School of Dental Medicine
Research Initiative for Scientific Enhancement Program
Mentor: Evangelia Morou-Bermúdez, DDS, PhD
Primary goal of research was to compare alkali-producing and acid-producing bacteria in dental plaque samples of healthy versus carious sites.

CLINICAL RESEARCH EXPERIENCE

- 2020 – present
Bethesda, MD
- Assistant Investigator NIH/NIDCR (20-D-0131): Safety of Tofacitinib, an Oral Janus Kinase Inhibitor, in Primary Sjögren’s Syndrome.
- 2020 – present
Bethesda, MD
- Assistant Investigator NIH/NIDCR (20-D-0094): Transmissibility and Viral Load of SARS-CoV-2 in Oral Secretions.
- 2019 – present
Bethesda, MD
- Assistant Investigator NIH/NIDCR (15-D-0129): Safety of a single administration of aav2haqp1, an adeno-associated viral vector encoding human aquaporin-1 to one parotid salivary gland in people with irradiation-induced parotid salivary hypofunction.
- 2019 – present
Bethesda, MD
- Assistant Investigator NIH/NIDCR (11-D-0172): The pathogenesis and natural history of Sjögren’s Syndrome.
- 2019 – present
Bethesda, MD
- Assistant Investigator NIH/NIDCR (15-D-0051): Characterization of diseases with salivary gland involvement.

RESEARCH FUNDING

- 2022
- Dentist Scientist Career Transition Award for Intramural Investigators (K22) funded by the National Institute of Dental and Craniofacial Research of the National Institutes of Health (K22DE032046)
- 2011 – 2018
- Ruth L. Kirschstein National Research Service Award for Individual Predoctoral DDS/PhD Fellows (F30) funded by the National Institute of Dental and Craniofacial Research of the National Institutes of Health (F30DE022286)
- 2011
- Institute for Molecular Virology Training Program (T32)
- 2009 – 2013
- 3M Science & Technology Fellowship
- 2009
- Minnesota Craniofacial Research Training Program (T32)

PUBLICATIONS

- Shen, Y., Voigt, A., Goranova, L., Abed, M., Kleine, D., **Maldonado, J. O.**, Beach, M. E., Pelayo, E., Chiorini, J., Craft, W., Ostrov, D. A., Ramiya, V., Sukumaran, S., Tuanyok, A., Warner, B. M., Nguyen, C. Q. (in review). Evidence of a Sjogrens disease-like phenotype following COVID-19. *JCI Insight*.
- ***Maldonado, J. O.**, Beach, M. E., Wang, Y., Perez, P., Yin, H., Pelayo, E., Fowler, S., Alevizos, I., Grisius, M., Baer, A. N., Walitt, B., De Giorgi, V., Alter, H. J., Warner, B. M., Chiorini, J. A. (2022). HCV infection alters salivary gland histology and saliva composition. *Journal of Dental Research*. doi: 10.1177/00220345211049395 *Study selected for JDR's May 2022 cover image.
- Guan, B., Frank, K. M., **Maldonado, J. O.**, Beach, M., Pelayo, E., Warner, B. M., & Hufnagel, R. B. (2021). Sensitive extraction-free SARS-CoV-2 RNA virus detection using a novel RNA preparation method. *iScience* doi: 10.1016/j.isci.2021.102960.
- Huang, N., Perez, P., Kato, T., Mikami, Y., Okuda, K., Gilmore, R.C., Domínguez Conde, C., Gasmi, B., Stein, S., Beach, M., Pelayo, E., **Maldonado J. O.**, ...Warner, B.M., & Byrd, K.M. (2021). Integrated Single-Cell Atlas Reveal an Oral SARS-CoV-2 Infection and Transmission Axis. *Nature Medicine*. 27(5). doi: 10.1038/s41591-021-01296-8.
- Maldonado, J. O.**, Perez, P. R., & Chiorini, J. A. (2021). Myoepithelial cell function in salivary gland physiology and disease. *Springer Nature*. Chapter 4. doi: 10.1007/978-3-030-72029-2_4
- Maldonado, J. O.**, & Mansky, L. M. (2018). The HIV-1 reverse transcriptase A62V mutation improves viral fitness in the context of multi-drug resistance mutations. *Viruses*, 10(7). doi: 10.3390/v10070376
- Maldonado, J. O.**, Angert, I., Cao, S., Berk, S., Zhang, W., Mueller, J. D., & Mansky, L. M. (2017). Perturbation of Human T-Cell Leukemia Virus Type 1 Particle Morphology by Differential Gag Co-Packaging. *Viruses*, 9(7). doi: 10.3390/v9070191
- Maldonado, J. O.**, Cao, S., Zhang, W., & Mansky, L. M. (2016). Distinct Morphology of Human T-Cell Leukemia Virus Type 1-Like Particles. *Viruses*, 8(5). doi: 10.3390/v8050132
- Martin, J. L., Cao, S., **Maldonado, J. O.**, Zhang, W., & Mansky, L. M. (2016). Distinct Particle Morphologies Revealed through Comparative Parallel Analyses of Retrovirus-Like Particles. *Journal of Virology*, 90(18), 8074-8084. doi: 10.1128/JVI.00666-16
- Martin, J. L., **Maldonado, J. O.**, Mueller, J. D., Zhang, W., & Mansky, L. M. (2016). Molecular Studies of HTLV-1 Replication: An Update. *Viruses*, 8(2). doi: 10.3390/v8020031
- Daly, M. B., Roth, M. E., Bonnac, L., **Maldonado, J. O.**, Xie, J., Clouser, C. L., . . . Mansky, L. M. (2016). Dual anti-HIV mechanism of clofarabine. *Retrovirology*, 13(20). doi: 10.1186/s12977-016-0254-0
- Cao, S. *, **Maldonado, J. O.***, Grigsby, I. F., Mansky, L. M., & Zhang, W. (2015). Analysis of human T-cell leukemia virus type 1 particles by using cryo-electron tomography. *Journal of Virology*, 89(4), 2430-2435. doi: 10.1128/JVI.02358-14 *Co-first authors.
- Maldonado, J. O.**, Martin, J. L., Mueller, J. D., Zhang, W., & Mansky, L. M. (2014). New insights into retroviral Gag-Gag and Gag-membrane interactions. *Frontiers in Microbiology*, 5(302). doi: 10.3389/fmicb.2014.00302

<https://www.ncbi.nlm.nih.gov/myncbi/jose.maldonado-ortiz.2/bibliography/public/>

SELECT ELECTIVE COURSES AND PROFESSIONAL DEVELOPMENT

2021 – present Bethesda, MD	Introduction to the Principles and Practice of Clinical Research (IPPCR) course
2020 Bethesda, MD	Imaging - from IF to FISH to automated and confocal microscopy course
2019 – 2022 Bethesda, MD	NIH/NIDCR weekly Clinical Case Conference (CCC) seminar
2017 Minneapolis, MN	University of Minnesota School of Dentistry Computer-Aided Design and Computer-Aided Manufacturing (CAD/CAM) Elective Course
2017 Minneapolis, MN	Oral and Maxillofacial Pathology Independent Studies Elective Course
2017 Minneapolis, MN	University of Minnesota School of Dentistry 11 th Gorlin Conference in memory of Robert J. Gorlin
2017 Minneapolis, MN	5 th Annual Park Dental Forum on Current Strategic Health Care Issues Access to Care: Innovative Approaches to Reduce Barriers
2009 – 2018 Minneapolis, MN	Minnesota Craniofacial Research Training Program (MinnCResT) Monthly Seminars
2009 – 2018 Minneapolis, MN	University of Minnesota School of Dentistry Oral Biology Student Weekly Seminars
2009 – 2018 Minneapolis, MN	University of Minnesota School of Dentistry Institute for Molecular Virology (IMV) Weekly Seminars

SELECT PRESENTATIONS

December 2022 Virtual Seminar	NIDCR Dental Clinical Research Fellowship: Clinical Case Conference Capstone Seminar
October 2022 La Crosse, WI	University of Minnesota, School of Dentistry, Institute for Molecular Virology: Invited career development panelist.
July 2022 Minneapolis, MN	University of Minnesota, School of Dentistry, Institute for Molecular Virology Special Seminar invited speaker (hybrid presentation): “Sneaky Places for Viruses to Hang Around – The Salivary Glands”
July 2021 Virtual Conference	IADR/AADR/CADR General Session & Exhibition Virtual Experience: “HCV Related Xerostomia: Altered Salivary Gland Histology and Saliva Composition”
April 2021 Bethesda, MD	NIDCR Thursday Data Session Seminar: “HCV associated xerostomia: altered salivary gland structure and saliva composition ”
June 2020	NIDCR Dental Clinical Research Fellowship - 10th Anniversary Symposium:

Bethesda, MD	“Virus Induced Xerostomia”
March 2017 Tokyo, Japan	18 th International Conference on Human Retrovirology. HTLV and Related Retroviruses poster session: “Analysis of HTLV-1 Gag copy number and Gag copackaging reveals novel insight into virus particle assembly”
July 2015 London, Ontario, Canada	Oral Presentation at American Society for Virology: “Characterization of HTLV-1 Particle Morphology and Gag Stoichiometry”
May 2014 Minneapolis, MN	Oral Presentation at Oral Biology Graduate Program Annual Symposium, University of Minnesota: “HTLV-1 viral-like particle Gag stoichiometry”
June 2013 Bethesda, MD	Structural Biology Related to HIV/AIDS Annual Meeting Poster Session, National Institute of Health: “Structural analysis of HTLV-1 viral-like particles by Cryo-EM”
October 2012 Saint Paul, MN	3M Poster Symposium, 3M Headquarters: “HTLV-1 particle biogenesis and structural analysis”
May 2012 Long Island, NY	Retroviruses Meeting Poster Symposium, Cold Spring Harbor Laboratories: “HTLV-1 particle biogenesis and structural analysis”
July 2011 Minneapolis, MN	American Society for Virology Poster Symposium: “Role of A62V in HIV-1 Reverse Transcriptase in Viral Mutagenesis, Fitness, and DNA Synthesis”

HONORS AND AWARDS

2022	2022 NIH Director’s Award for extraordinary initiative in the implementation and administration of the NIH COVID Vaccine Clinics (primary and booster) at Multiple Geographical Locations
2022	National Institute of Dental and Craniofacial Research Dental Clinical Research Fellowship
2020	COVID-19 clinical team recognized with the NIDCR Special Act or Service Award
2018	Awarded the 2018 Whip Mix “Best of the Best” Excellence in Prosthodontics
2017	Selected to participate in the National Institute of Dental and Craniofacial Research Workshop for Dual Degree DDS/PhD trainees, at the National Institutes of Health campus
2017	Featured in the University of Minnesota “Dentistry Magazine” for Alumni of the School of Dentistry Spring 2017
2017	Nominated by faculty for a University of Minnesota School of Dentistry continuing student scholarship to recognize outstanding technical skill
2016; 2017	Dean’s List, University of Minnesota School of Dentistry

2016 – 2017 Nominated by faculty and awarded the University of Minnesota School of Dentistry Dr. William F. Braasch Endowed Memorial Scholarship

LEADERSHIP

2021 – 2022 Chief Dental Clinical Research Fellow
Duties and responsibilities include to orient and train new and current dental fellows in the dental clinic procedures, use of equipment, and general rules and regulations at the NIH clinical research center; to organize and moderate the weekly dental clinical research fellowship (DCRF) clinical case conferences; represent the dental fellows at the NIH fellows committee meetings; evaluate candidates for the DCRF program; communicate and work closely with the NIDCR leadership regarding issues affecting the dental fellows.

2018 – 2019 Columbia Heights Dentistry
General dentist. Managed a dental team that included two dental assistants, a dental hygienist, one to two receptionists, and a benefits coordinator alongside the office manager. Trained newly hired dentists and hosted dental hygiene and dental assistant students. Organized events to raise awareness regarding oral health disparity issues among the elderly and children.

2016 – 2017 Hispanic Student Dental Association (HSDA)
Vice-President of the Minnesota chapter of HSDA. Organized events to raise awareness regarding health disparity issues among Hispanics and other underserved communities. Organized and managed a clothing sale that resulted in \$8,000 in profits. One-third of the money was donated to the Bolivian Children’s Hospital in Bolivia.

2015 – 2017 Minnesota Dental Student Research Group (MSRG)
Group leader of the Minnesota chapter of the National Student Research Group. Planned events to promote student research related to dentistry and oral health. Students acquired knowledge and tools that could be used in clinic for the benefits of their patients.

COMMUNITY SERVICE

2016 River of Life and Waters of Life Church
Saint Paul, MN Participated in a health fair, targeted at underserved individuals in the community and taught proper oral hygiene techniques and educated individuals about oral diseases.

2015 – 2017 Spanish Language Workshops
Minneapolis, MN Organized small Spanish language sessions and taught basic written and conversational Spanish skills to dental school classmates. Together with the U of M School of Dentistry Office of Admissions and Diversity, organized and taught written and conversational Spanish to the School’s staff, faculty, and students.

2015; 2017 Give Kids a Smile

Minneapolis, MN

Provided Spanish interpreter services to assist in the dental treatment of underserved Hispanic individuals. Additionally, provided restorative and preventative dental treatment to numerous underserved children.

PEER REVIEWER

Ad-hoc reviewer

European Journal of Oral Sciences

LANGUAGES

Spanish, Native proficiency

English, Full professional proficiency

PROFESIONAL MEMBERSHIPS

2018 – present

Minnesota Dental Association

2015 – present

American Association for Dental Research

2015 – 2020

American Dental Association

2015 – 2016

American Society for Virology

2015 – 2016

American Student Dental Association

2015 – present

International Association for Dental Research